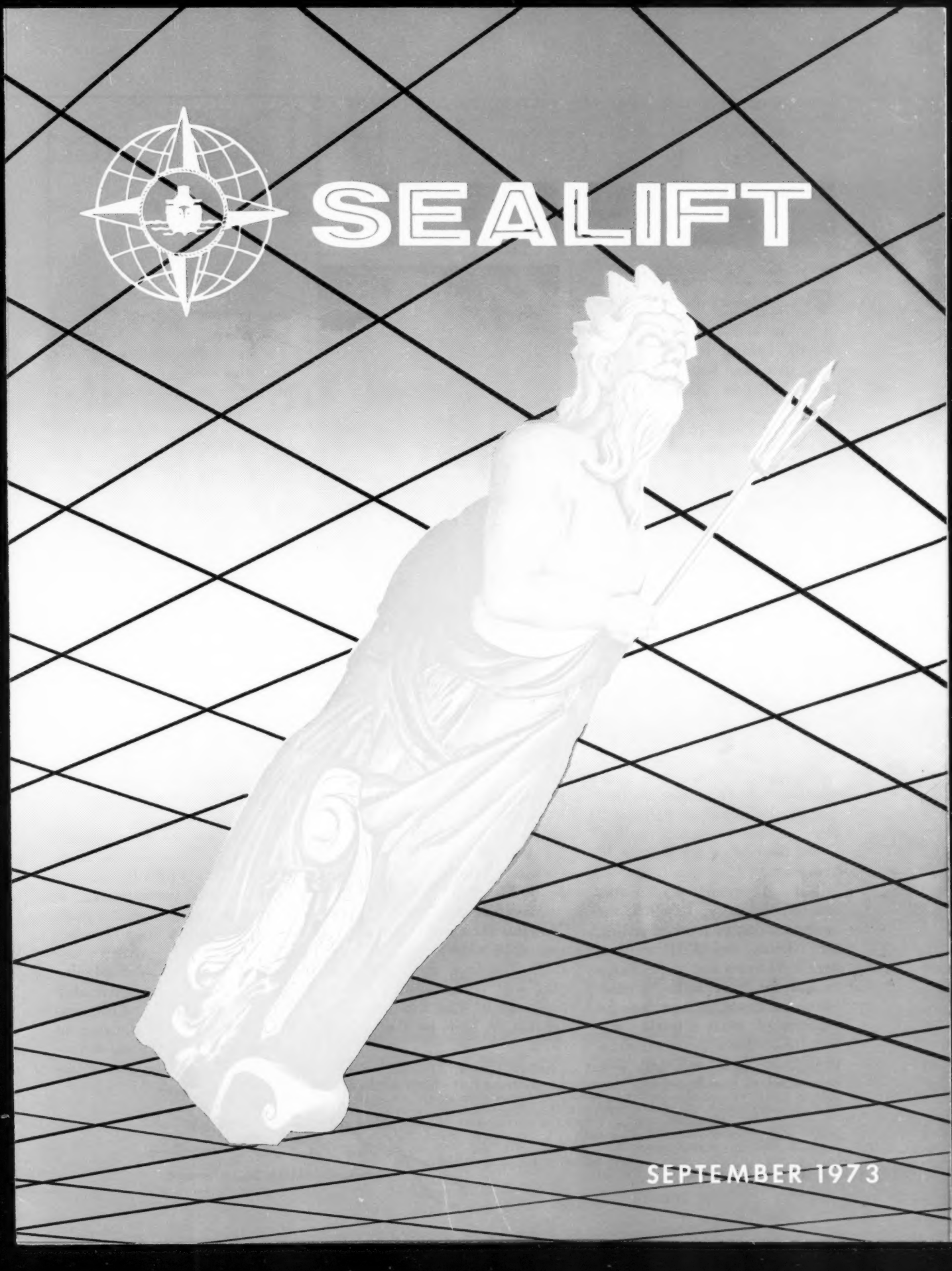

SEALIFT
SEPTEMBER 1973

First Tanker To Be Launched

The high cost of living is of great concern to most of us today. Food, clothing, building materials, gasoline, household appliances, all cost much more than in previous years.

A June 1933 copy of the New York Times indicates how dramatic the change has been. In 1933, a six-cylinder Plymouth car cost $445. Saks Fifth Avenue was selling men's suits for $37.50 and price of a dinner in a first class hotel was only $1.50.

At that time, the Navy was constructing a carrier, the Ranger, at a contract price of $15.5 million. That represented a substantial share of the total Navy budget of $133 million.

In October 1973, 40 years later, the first of nine tankers being built by private capital for long term charter by MSC will be launched at San Pedro, Calif. Cost for construction of the Sealift Pacific is almost $16.6 million, or more than a million above the cost of the Ranger 40 years ago.

But that comparison alone does not tell the story. In 1969, the estimated cost of another carrier, the Nimitz, was $510 million, nearly 33 times that of the Ranger. As the Navy seeks to modernize its assets, it must face the realities of today's world. Material costs have increased drastically, as have salaries. But, productivity also has risen, the result being that the value of the U.S. annual gross national product continues to increase.

Productivity of the shipyard workers is especially evident in the building of the nine 25,000 ton tankers MSC will receive. Contracts for construction of the nine ships were signed in June 1972. The first, the Sealift Pacific, will be launched October 13—with all nine scheduled for delivery to MSC by the end of 1974.

Construction changes under the contract have been limited to date, and net result of the changes has been a savings rather than a cost increase. Changes made to date were necessary to insure that the ship meets new Coast Guard safety standards.

Today, the cost of national security is high when weighed against the Navy budget for 1933. But, in my opinion, the build and charter contract under which nine tankers are being constructed for MSC charter is an excellent example of how cooperation among all elements of the maritime industry, effective management of resources, and increased productivity of shipyard workers, enable the Navy to get more for each dollar expended. We can continue to do that if we are willing to use imagination in our efforts to secure needed goods and services and if we procure services only of the ships we need to fulfill the demands of our mission.

We in MSC have a responsibility to exercise prudent management, and to provide the most effective sealift service we can at the most economical cost. I think we have fulfilled those responsibilities over the years. We can continue to do so by displaying the same type of innovative ability, resourcefulness, and cooperative effort with all elements of the maritime industry which have become so characteristic of the command.

John D. Chase

Commander, Military Sealift Command

COVER: Neptune, the mythical god of the seas, watches over an exhibit hall at The Mariners Museum.
Design by Bonnie D. Hooven.

SEALIFT

PUBLISHED BY THE UNITED STATES NAVY'S
MILITARY SEALIFT COMMAND

Vol. XXIII No. 9 Washington, D.C. September 1973

Features:

Recovery at sea

Page 4

Cargo transfer

Page 7

Sealift Pacific

Page 11

Soviet ship

Page 21

Other Features:

Safety—page 9 ; Figureheads—page 14;
USNS Mirfak—page 19.

REAR ADMIRAL JOHN D. CHASE
Commander,
Military Sealift Command

LARRY C. MANNING
Legislative and Public Affairs Officer

LOUIS R. GRANGER
Public Affairs Officer

JOSN HOWARD L. ROSENBERG
Editor

HENRY L. BALLOON
BONNIE D. HOOVEN
Graphics

RUSS EGNOR
Photo

ED NURENBERG
LINDA McDANIEL
Contributing Staff

Sealift, monthly magazine of the U.S. Navy's Military Sealift Command, is published in accordance with Department of the Navy Publications and Printing Regulations (NAVEXOS P-35). Opinions expressed are not necessarily those of the Navy Department. All original material may be reprinted providing credit is given Sealift. Address all pictures and correspondence to Legislative and Public Affairs Office, Military Sealift Command, Department of the Navy, Washington, D.C. 20390.

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price, 50 cents (single copy). Subscription price, $5.50 per year; 75 cents additional for foreign mailing.

When there is a need to explore the ocean's floor, simply

Call for A.B. Wood

On June 18, 1973, a mini-submarine trapped in the wreckage of a sunken Navy ship off Key West, Fla. was brought to the surface by rescue workers after being submerged in 350 feet of water for more than 30 hours. Two men in the minisub were dead; two survived.

The rescue ship was identified in the news media only as the A.B. Wood II, a commercial oceanographic vessel. In fact, for the past two years the A.B. Wood has been under charter by Military Sealift Command for exclusive support of the Naval Ordnance Laboratory (NOL), Fort Lauderdale branch. And the men who lifted the minisub to the surface are civilian employees of the United States Navy.

The apparatus used to free the minisub is an underwater television recovery system designed by Hugh Bowen, an electronics technician at the Naval Ordnance Laboratory field branch, primarily for retrieval of experimental naval weapons. The NOL team has brought up objects from 1,200 feet beneath the surface—working in currents up to 4 knots. Other objects have been located and visually inspected at 2,000-foot depths.

The facility at Fort Lauderdale is a branch of the Naval Ordnance Laboratory at Silver Spring, Md. Its basic function is to test experimental weapon systems under actual service conditions. To perform this task military and civilian personnel at Fort Lauderdale have developed unique skills in planting and retrieving ordnance, and in pinpointing location of underwater objects, especially in fast ocean currents like the Gulf Stream.

The underwater TV system was first tried in 1958. Previously, ordnance recovery was performed by Navy divers—usually SCUBA—or the weapons had a built-in flotation system or automatic buoy for recovery. These recovery systems were cumbersome. Navy divers were limited in operating depths and time in the water, and the flotation systems were not 100 per cent reliable. To correct these shortcomings a commercial underwater camera was purchased, attached to a homemade rig, and then tested.

It was apparent that a TV camera wasn't enough. It

was still difficult to locate an object and sometimes, because of currents and low visibility, it was impossible to grapple and retrieve it. Over the past 15 years several items have been added to make the system more versatile. The tripod framework—welded, lead-filled steel pipe—is roughly the same. A compass was one early addition. Read by the TV camera, it helps orient the shipboard crew. A large metal vane was added to keep the rig lined-up with the current and better stabilized.

To make the camera more maneuverable, two electrically-driven, reversible propellers were added. They enable the operator to approach an underwater object even against swift currents. Recently a sonar pinger and receiver were added to detect bottom anomalies beyond the range of the light, and to find sonar reflectors attached to semi-permanent test assemblies.

The light source has been changed several times as technology advanced. Latest is a quartz iodide type that illuminates an area about 50 feet in diameter. Each component of the system, from the TV camera to the current indicator, is commercially available. It's possible that this combination of components has never before been assembled for underwater use. But, more importantly, what is unique is the training and experience of the NOL technical crew. And certainly unique are the results obtained with the rig—almost 100 percent recovery reliability of items lost, strayed or planted.

A typical day's work recently involved location and recovery of an underwater detection device. At 8 a.m. the A.B. Wood left the dock, situated at NOL's boat facility near Port Everglades, bound for a section of the Atlantic Ocean about 15 miles off the Florida coastline. The test device had been planted by ship a couple of weeks earlier. There was one big problem. The shore-based radar location system that normally records the drop point was out of operation. Only the general site was known, leaving an area of more than one square mile to explore.

An hour and a half after setting out, the Wood was scanning the area with sonar. Fortunately the device to be recovered had a sonar reflector attached and it was soon located. Within an hour the Wood had anchored above the device and was ready to lower the underwater TV system.

The NOL crew of trained technicians then took over. The TV they used is suspended by wire cable from a crane on deck and raised and lowered by a winch. The crane's main cable, normally used to handle a load, instead moves the TV platform fore and aft, and away from the deck through a system of pulleys. For maneuvering more than about 50 feet, the ship itself is moved by winching-up or lengthening its anchor cable.

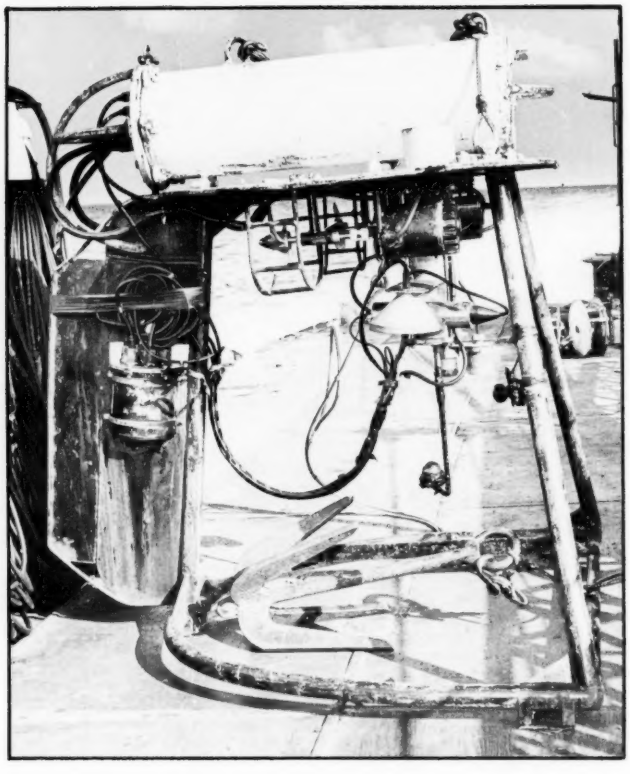
As the deck crew prepared to launch the TV, the electronic technician gave the equipment a final check. The remote controlled camera, with light attached, can swivel 180 degrees horizontally and vertically. As the TV descended, it was stopped momentarily every 25 feet while a cable clamp was quickly installed and the instrumentation line connected to it. The TV was on the bottom, in 1,200 feet of water, within a half hour.

Inside the ship's compartment, the technician operator watched a video screen. With the camera pointed downward, he watched the bottom approach and, as it neared, he began scanning horizontally. The sonar picked up a strong reflection and he checked the attached compass to obtain the bearing. From then on it was just as easy as threading a needle, even though a quarter-mile away.

Watching the video screen closely, the technician directed the winch operator to raise the camera a little. Use

SUCCESS: Underwater TV brings up its target from 1,200 feet in this test 15 miles at sea. Once the ship reached the area it took only 2½ hours to retrieve the unit.

MINI-SUB RAISED: The Johnson-Sea-Link submarine is brought to the surface alongside the A.B. Wood.



RECOVERY RIG: Showing signs of wear, this recovery gear was used to raise the Smithsonian's research submarine. The cylinder on top holds batteries to run propellers under the cylinder. Grappling hook is lower center.

of the propellers let him move against the current, making sweeps over the target. A word to the skipper of A.B. Wood II and the ship's stern swung over into the breeze.

The current is strong and the cable bends away from the ship at a 45-degree angle. Each time the operator brings the TV near its goal, the current shifts, the ship shifts or the wind changes. But finally, after a good deal of manuevering, the grapple on the underside of the rig catches the loop on the device and a signal to hoist is given.

At noon the device is on deck. Total time from location to recovery was 2½ hours. A remarkable feat, but one duplicated almost every day by NOL men. As Wallace Taylor, Jr., the senior technical representative of the Fort Lauderdale laboratory, stated:

"Without trained personnel to accompany the gear, successful recovery would be doubtful. Our results are based more on the teamwork among the ship's captain, the crane operator, the TV technician and the deck force than on any sophisticated equipment. Without this experienced team, the system just won't work!"

The facts bear him out. Whenever A.B. Wood gets an assignment for recovery at sea, or whenever the underwater TV system goes anywhere, the Naval Ordnance Laboratory crew goes along. □

The mini-sub Johnson Sea Link, in which two of four veteran oceanographers died, belongs to the Smithsonian Institution. She's a 9-ton, 23-foot submersible.

The men, Clayton Link, 31, son of the vessel's designer; Archibald Menzines of Scotland, the sub's pilot and commander; Albert Stover of Florida; and Robert Meek of California, were making a study of fish when the small vessel became entangled in debris from the hull of the sunken USS Fred T. Berry. The Berry, a destroyer, was scuttled by Navy in 1972 to serve as an artificial fishing reef 20 miles off Key West.

Johnson Sea Link looks like a helicopter without blades. It has a 6-foot transparent sphere in the front for a pilot and scientific observer and a rear compartment for as many as three divers who exit to collect sealife and geological samples. It was in this rear compartment that Stover and Link suffered, almost from the beginning, from cold and carbon dioxide.

By the time Wood's grappling hook brought the sub to the surface, almost 31 hours had elapsed. Meek and Menzines were safely removed from the forward section, but it was hours before the aft compartment could be decompressurized. The following day, after decompression was completed, bodies of the other two men were removed.

UNLOADING: A 30-ton mobile crane on an LCU boat is readied for unloading palletized cargo from a fiberglass barge.

Naval engineers are developing techniques for delivery of cargo from barge ships at sea to shore depots.

Getting the goods moved

Feasibility of developing a system to move materials from commercial barge ships at sea to shore proved encouraging during recent tests by the Naval Civil Engineering Laboratory (NCEL), Port Hueneme, Calif.

The week-long project a mile off the California coast gave engineers enough data to be incorporated into a full-cycle concept for delivery of cargo from barge carrying ships—LASH and Seabees—at sea to supply depots ashore for logistical support of Marine Corps amphibious forces, said Billie R. Karrh, research structural engineer in charge of the tests.

Objectives were to handle and unload barges at sea and to develop basic engineering data on barge behavior in an adverse environment. Particular attention was given barge motion, varied types of cargo handling systems, and capability of existing Navy equipment used in towing and handling operations.

"We determined that the basic concept of unloading cargo pallets from barges at sea is workable," said Karrh. "It appears to be feasible and practical for unloading in rougher seas but at this stage of development the survivability of the barges under storm conditions is uncertain."

The entire test was in comparatively calm waters at Coronado, Karrh pointed out. At no time were waves higher than 3 feet.

Officials envision a four-part system for ship to shore cargo movement: Cargo ship launches its barges at sea, barges are corralled into clusters, individual barges are unloaded when convenient, and cargo is taken ashore.

In adapting the commercial LASH system to military cargo logistics, laboratory engineers used two barges. One was a fully loaded steel barge and the other a partially loaded fiberglass barge. Both were chartered for the test by Military Sealift Command. The steel one was loaded with simulated pallet cargo, the fiberglass barge with miscellaneous construction equipment.

Karrh said the test included use of work boats, causeways, standard Navy landing craft, and a 30-ton mobile land crane mounted on three different floating platforms. Platforms used were a four-section floating causeway moored at sea, an LCU (Landing Craft Utility) boat, and a floating causeway moored to the beach. Karrh said a fourth method of unloading with considerable potential, but which was not tested, is a crane mounted on an elevated causeway.

Barge towing tests involved four different craft and

MANEUVERING: Men guide cargo from the barge at left as a crane lowers the boxes to a pontoon causeway.

three methods of towing. Engineers evaluated a pontoon barge warping tug, 130-foot LCU, a 74-foot LCM–8 (Landing Craft Mechanized), and a 40-foot Navy utility boat. Towing methods included pull-tow, pulling with stern of lead craft; breasting tow, with barge tied alongside tow vessel; and push-tow, with the towing vessel simply pushing the stern of barge.

Karrh said the warping tug demonstrated the best overall towing-handling-maneuvering capabilities of the four craft tested. "Basic engineering data developed could eventually be used in the development of a specially configured barge towing-handling vessel that can be carried aboard a LASH or Seabee," he explained.

During the unloading phase, laboratory officials looked for the most acceptable work and crane platform for lifting palletized cargo from the barge in the open sea.

The LCU proved most stable but flexibility was limited by the boat's configurations. The beached causeway uncovered problems caused by horizontal surge motion when the barge was moored at the sea end. The moored causeway-at-sea presented no major problems.

DOCKING: The bow of a warping tug in foreground maneuvers a steel LASH barge next to a pontoon causeway.

In a separate experiment, engineers tested an air-cushion device to transfer cargo from beneath a barge overhang where a crane could not reach.

LASH vessels carry about 70 barges while the Seabees can accommodate approximately 40 larger barges. A LASH barge is 31 feet wide, 61 feet long and 13 feet deep and can transport more than 10,000 long tons of cargo. The Seabee barge measures 35 feet by 96 feet by 17 feet and carries up to 12,000 tons.

Naval Beach Group One and the Amphibious Construction Battalion One, both of the Naval Amphibious Base at Coronado, provided logistical support for the offshore tests.

(Special to Sealift from the Naval Civil Engineering Laboratory). □

SAFETY: We are the enemy

by
Hank A. Moran

In view of the fact that more than 85 per cent of all accidents in the marine industry occur through human error rather than by gear and equipment failure, it follows that engineering for safety must begin with the human being.

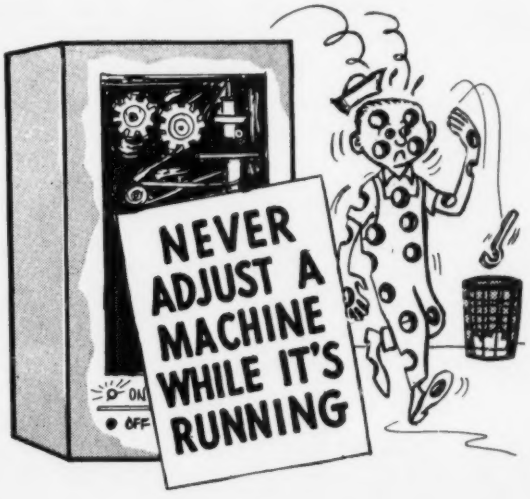
Each worker has his own problems and troubles to resolve. Each individual has hopes and ambitions, physical weaknesses as well as strengths. Each is self-motivated with his own interests and values. In going through life, he has taken and will take many short cuts and chances. He has formed and will form many unsafe habits. But, because he is unique, man cannot be programmed like a machine. He has to be treated as an individual.

Safety is a very personal problem, and here lies the often overlooked key to accident prevention. Injuries occur to a person, and, regardless of the agent producing the injury, mechanical, electrical or chemical, the method by which the agent acted, or the sequence of events, the one common denominator in all injury mathematics is the human being.

Because few men are gifted with foresight, they tend to disregard safety regulations which interfere with what they want to do at the moment. They adjust machinery while it is in motion, remove guards which are not welded on, and forget to lock out a switch. Old ways, repeated and reinforced because they get the job done, tend to become habits which result in accidents. It's axiomatic that man does not like to adopt new ways because new procedures demand a change in behavior, learning new skills or altering attitudes. It's human and completely normal to resist change when we are getting along to our own satisfaction.

To limit injuries, managers must resist the temptation to write a manual or set of safety regulations, issue a statement supporting the safety effort, and then await the day that injuries stop. Accident prevention will never be that simple. If it were, injuries would have disappeared from the industrial scene years ago, for many companies, both large and small, have approached the problem from the viewpoint that established rules and regulations will prevent accidents.

Unfortunately, one fundamental fact is overlooked. The very person with the most to lose by injuries—the worker—is the weak link in the safety chain. Safety involves a constant battle against the negative forces of human indifference, carelessness and negligence. Just one weak link in the chain of operations can, and often does, result in disaster. A poorly rigged or defective gangway can result in injury to ship personnel or longshoremen. Yet some masters and deck officers are offended when a potential hazard is pointed out to them, even though safety is their responsibility.



Poor maintenance of cargo gear also can result in tragic consequences. In a recent accident, a stevedore suffered a fractured skull when a fairlead on a cargo boom fell into the hold. Investigation revealed the cargo runner was too short to reach the lower hold. When it ran

out during cargo operations, the runner pulled free from the securing clamp on the winch drum, breaking the fairlead strap and causing the fairlead sheave to fall into the hold.

This cargo runner, normally 800 feet in length, was found to be only 635 feet long. This shorter length did not permit a minimum three turns to remain on the drum when the load was landed.

The ship's hull history card indicated the cargo runner to be 800 feet long when installed. No one in the crew could account for the short length. One might speculate that either an improper length was installed initially, or that a damaged piece had been removed. Whatever the reason, the accident points up the need for continuing vigilance necessary to prevent human suffering—by preventing accidents.

All men sometimes do things of which they are not proud. And we don't necessarily appreciate the person who reminds us. Because we do not want our inadequacies to become known, we always have our mental fists up to protect our pride, to save face.

Self esteem is indeed one of man's basic needs. Men will quarrel, even fight, to protect it. This is an important point for the supervisor whose workers feel their boss is too inquisitive about "their business." They might fear that their inefficiencies or shortcomings will be exposed, and they may be embarrassed. Defensive men tend to reject new ideas, new methods. They don't want anyone prying into their operations, or offering advice. In dealing with men who have a defensive manner, a good supervisor must balance the scales, praising good performance and safety practice, while offering logical suggestions for improvement.

Even though this is the era of the expert, people throughout our society tend to resist the specialist who comes around to see what's going on—and to offer unsolicited advice. That's human too, but the trained safety engineer can make a contribution, in improving work practices or in design of safety equipment.

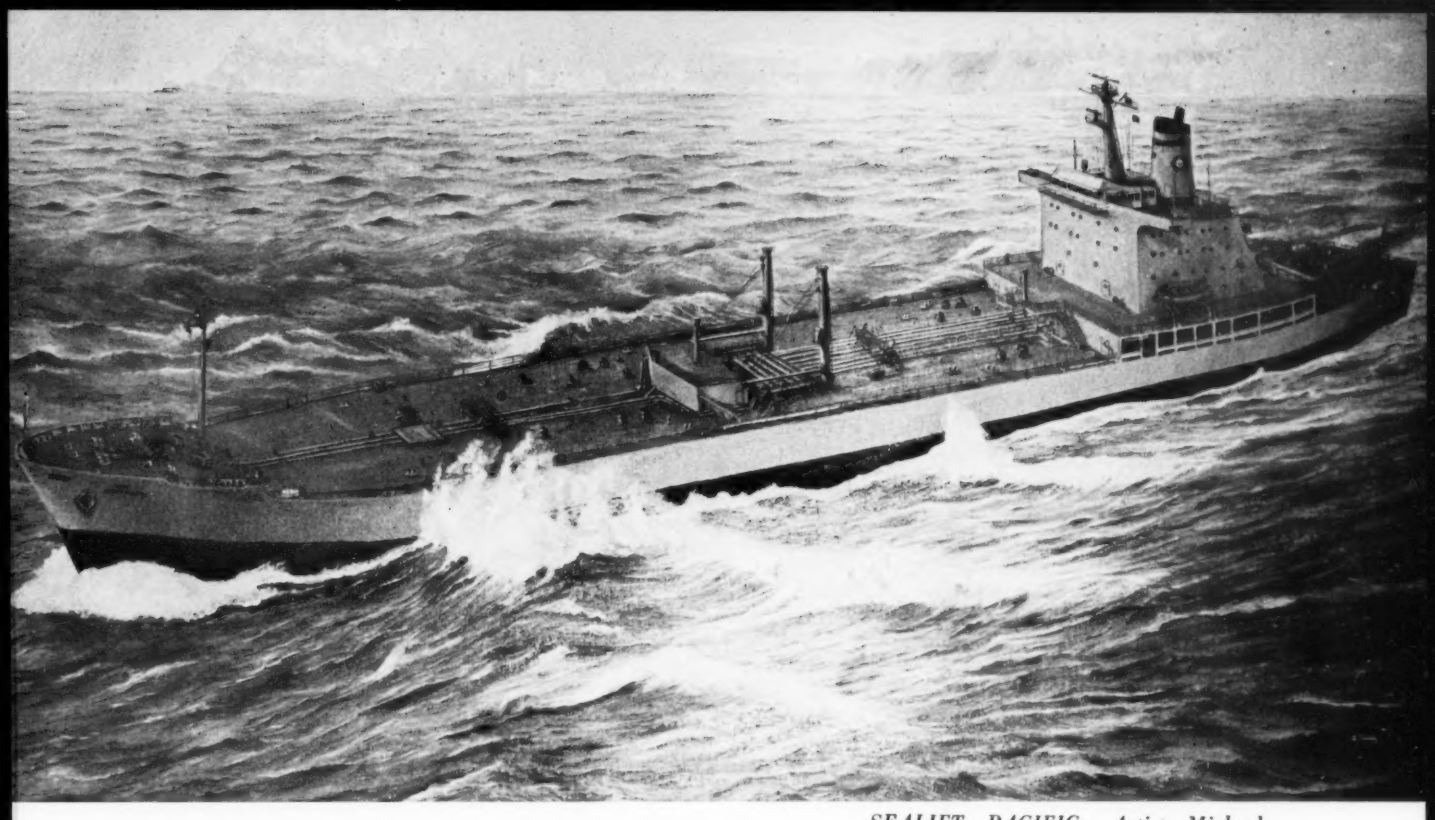
As the safety of the physical work environment has improved because of stringent design standards, safer equipment, inspections and material testing programs, and use of guards, interlocks, and other devices, the safety record also has improved. Today, human error is involved in the vast majority of injury-causing accidents. But, controlling the human being is obviously a much more complex undertaking than redesign of equipment or work spaces.

Meeting the challenge of safety requires knowledge, fortitude and persistence on the part of all shipboard supervisors in conducting on-the-job training and follow-up procedures. It demands understanding people and the forces which motivate them. Supervisors, from the master down, must enforce accident prevention practices. However, it should be recognized that no safety program can ever hope to reach perfection. Human beings never will be infallible. Human minds will wander; frustrations have an adverse impact on behavior; uncomfortable working conditions affect physical coordination, and fatigue takes its toll and hampers both judgment and physical responses. Lack of knowledge, familiarity with equipment and professional skills also tend to be reflected by rising accident rates.

All of these truths should be recognized by worker and supervisors alike. It may well be true, as a managerial doctrine indicates, that everyone's work is no one's work. But, safety is an obvious exception to the rule. Safety is everyone's job.

An ounce of prevention is indeed worth pounds of cure. Alertness and awareness of danger are important to the safe worker, for a man who knows an accident can occur will try to avoid it. If a crew member expects that a hatch might become unlatched and fall on him, he will make certain that the toggle pin secures the latch before he descends the ladder into the compartment below, for survival is most paramount among human needs.

A well organized and effectively implemented safety program is a means to an end, a system for insuring human survival and limiting painful injury. It is a means of promoting efficiency and economy, for safe workers are more productive, as is well maintained equipment and machinery. And efficiency, economy and maximum utilization of available assets are necessary elements for the Military Sealift Command's operational success. In short, everyone has a stake in safety—and all share the responsibility. □



SEALIFT PACIFIC: Artist Michael Duguay painted this rendering of the tanker and donated it to MSC. It hangs in the command's Washington, D.C. headquarters building.

Sealift Pacific— Shaping up

When Sealift Pacific is launched October 13 at San Pedro, Calif., she will be the first of nine tankers being built for long-term charter to the Military Sealift Command to move from the ways to the water.

Mrs. Arthur Mendolia, wife of the Assistant Secretary of Defense for Installations and Logistics, will sponsor the Sealift Pacific. Secretary Mendolia will be the primary speaker at the ceremony to be held at the San Pedro facility of Todd Shipyards Corp., Los Angeles Division.

Sealift Pacific is scheduled to be delivered to MSC by Marine Vessel Leasing Corp. for operation by June 15, 1974. Capable of delivering five different types of petroleum products simultaneously, the ship will also be able to carry on alongside refueling of Navy ships plus consolidations with other tankers.

Contracts for construction of the nine tankers were signed in June 1972. All nine of the 25,000 deadweight ton vessels are to be delivered by the end of 1974. Each will be 587 feet long and have a draft of 32½ feet. Cargo capacity of the ships is 220,000 barrels.

Todd is building four with five others being constructed by Bath Iron Works, Bath, Maine, for Marine Ship Leasing Corp.

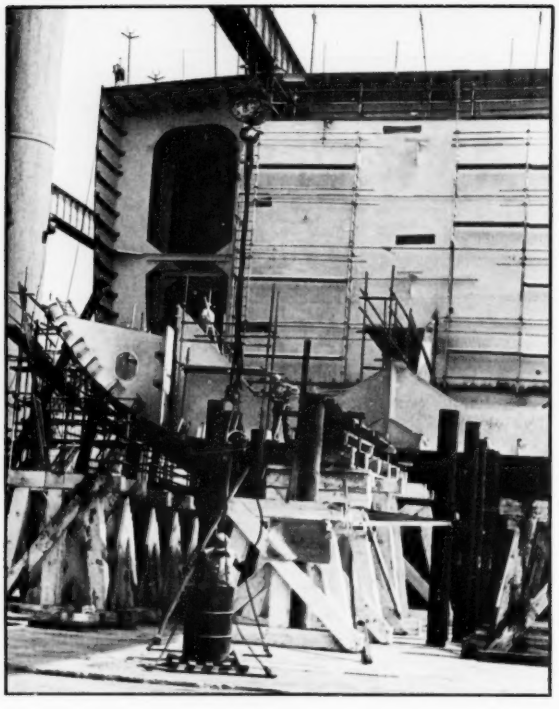
Photos accompanying this story were taken by Russ Egnor in late July at San Pedro. As can be seen, Sealift Pacific was taking on the shape of a ship but might have been more accurately described as a maze of pipes and cut and uncut steel, or a spiderweb of scaffolding from which a variety of skilled workers were each doing their own thing.

Names of the other eight tankers, all preceded by the word Sealift, are the Arctic, Antarctic, Atlantic, Mediterranean, Arabian Sea, Indian Ocean, China Sea and Caribbean. MSC has asked for authorization to list the ships as USNS—United States Naval Ship—so that they can be tied into the Navy communications system.

Construction cost of Sealift Pacific is $16.6 million with all nine to cost about $160 million.

All nine ships will be bareboat chartered to MSC for operation with a civilian crew of 30, plus two maritime academy cadets who sail aboard MSC tankers as a part of their training. (See photo layout on pages 12, 13.)

□

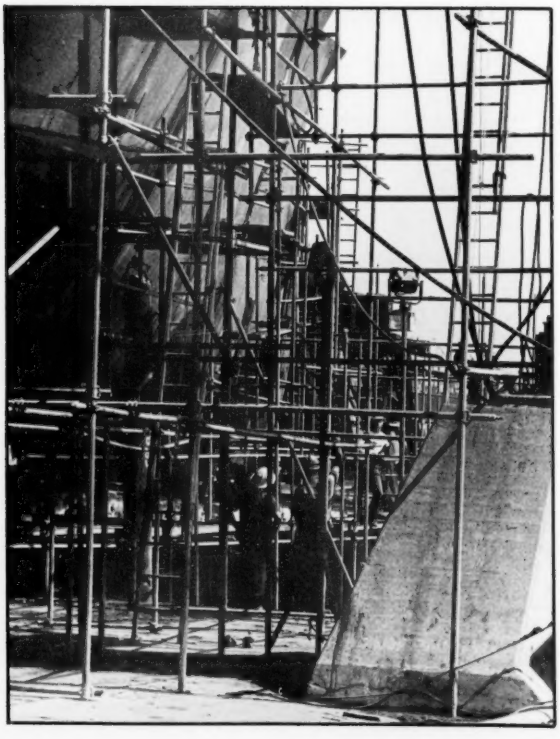


MID SECTION: Two shipyard workers are dwarfed amid steel bulkheads and wooden supports.

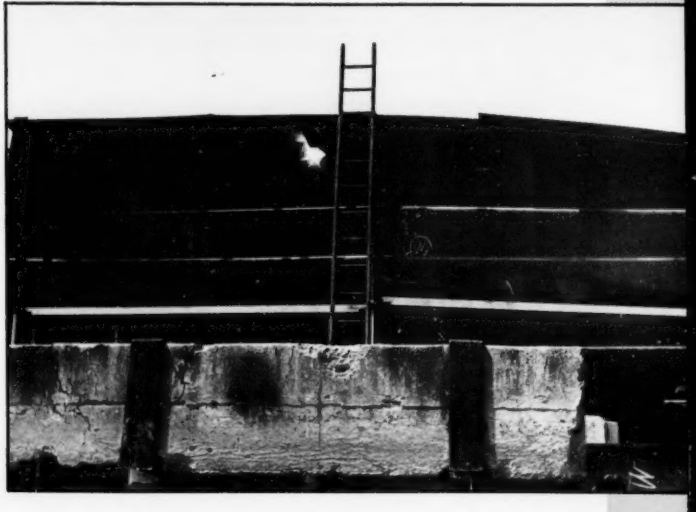
HEAVY LIFT: One of Todd's big cranes works between two hulls under construction at San Pedro.

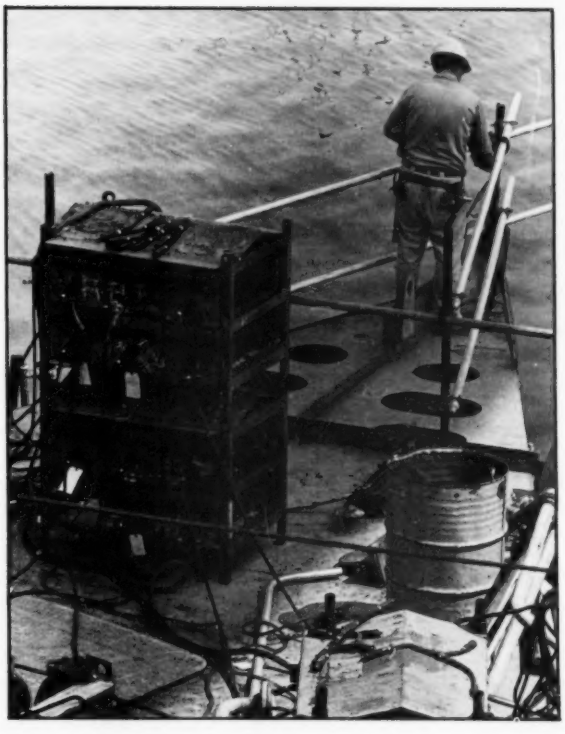
SEALIFT PACIFIC

Photos by Russ Egnor

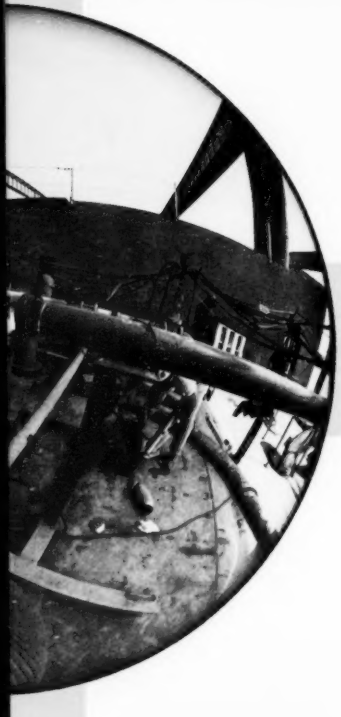


GEOMETRICS: Scaffolding around the ship gives a geometric design to the Todd yard.

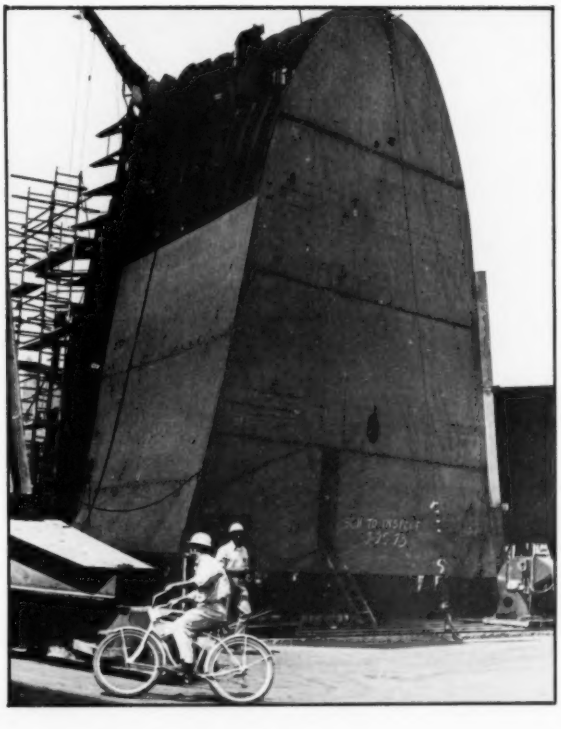




PLUGGED IN: Long black electrical tentacles lead from a portable bank of welding resistors to various parts of the ship.



FISH EYE VIEW: A welder joins a long section of piping. There are at least seven workers in this picture.



BOW: The bow section is being constructed upside down. A third shipyard worker is at the top of the photo.

WELDERS WORK: A torch burns through a steel plate to make way for petroleum carrying pipes.

Steam and iron brought a close to the sailing ship era and also marked the end of ship carving art.

FIGUREHEADS— tradition of the sea

by
Louis R. Granger

DERWENT LION: The lion from the British clipper ship Derwent looks down on the main exhibition wing at The Mariners Museum. The 12-foot figurehead was carved from teak in Dumbarton, Scotland.

Courtesy, The Mariners Museum

As the advent of steam vessels and iron hulls brought a close to the romantic era of the wooden ship, it also marked the end of the figurehead once regarded as the very soul of a ship.

There was a time when a sailor might refuse to sign for a voyage unless the ship had a figurehead. That ornament meant good fortune and a mishap to a figurehead was considered a bad omen.

During the early 19th century, every sailing ship from the finest clippers to the most humble brig had its figurehead—a practice now all but lost among American flag vessels.

Not completely, however. In 1967 the American President Lines (APL) hoisted a one-ton steel eagle, 30 feet from wing tip to wing tip, and welded it to the bow of the SS President Van Buren.

The gold colored figurehead first made its appearance aboard the bow of APL's five Seamaster class ships in 1967 and 1968. The eagle once again is in production at the Ingalls Shipyard at Pascagoula, Miss., where American President Line's four Pacesetter container ships are being constructed.

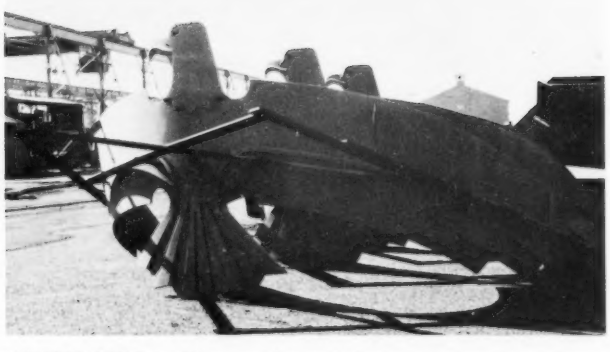
Two of the new eagles already are at sea on the President Jefferson and President Madison. The other two Pacesetters, the President Pierce and President Johnson, will be fitted with eagles before being placed in service this year.

When the Seamaster class of vessel was being planned in the mid 1960s original specifications called for the company's insignia, a red eagle, painted across the bows of each ship. APL senior naval architect Donald Reardon, a figurehead buff, suggested the real thing.

San Francisco architect Richard Hein was asked to develop a design and small model of a figurehead. Result was a stylized eagle made by using several layers of steel in parts of the head, body and tail to give it a three—dimensional look.

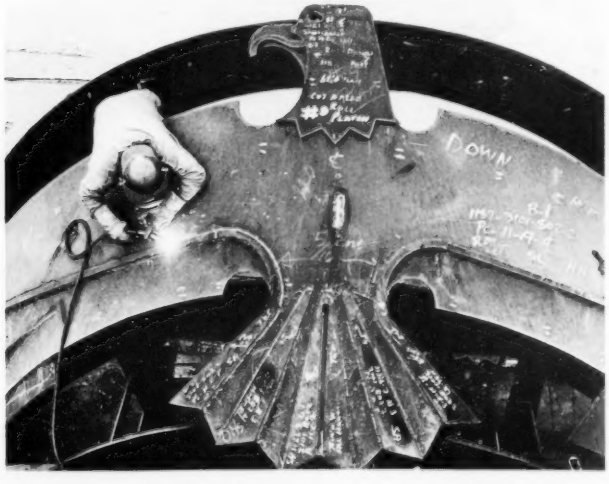
After the basic outline was cut, steel overlays were welded on for the sculpture effect. The steel was split on

SYMBOLIC EAGLE: The eagle's head from the Great Republic is more than 5 feet long and symbolized the spirit of the country in the mid 1800s. The ship was designed by Donald McKay who also designed the famed clipper Flying Cloud.
Courtesy, Mystic Seaport



THREE BIRDS: Giant eagles wait for a permanent nest aboard new ships joining APL's fleet of Pacesetters.

BOW PERCH: Thirty feet wide and 8 feet high, this eagle dwarfs a worker.



EAGLE WELDER: An overlay of steel is welded on the bird.

the wing tips and filler pieces inserted to provide a feathered appearance.

APL is one of the few steamship lines to continue this seafaring tradition in its modern ships. Fred Olsen & Co., one of Norway's leading steamship operators, began putting half-ton bronze figureheads on its vessels in 1936.

A figure of Buffalo Bill appears on Olsen's motor vessel Buffalo, and a Spanish knight with small monkeys riding his shoulders is on the MS Bruno. A bare bosomed female adorns the bow of the MS Baghdad.

Most modern ships, however, are "naked" at the bow, partly because of costs, decline of the woodcarving art and the fact that configuration of ships do not readily lend themselves to figureheads.

Men who take to the sea are possibly the most superstitious of all human beings. And it is no wonder. The sea offers man the ultimate in mystery. It is something we can see and touch and yet the world of the inner ocean is more of a mystery than the surface of the moon.

To combat real and imagined forces that surround ships, the earliest seaman turned to gods of the sea for comfort and safe sailing. Historians agree that early ship ornamentation was both mythical and religious.

Pliny the Elder, Roman naturalist and author, wrote: "A storm may be lulled by a woman uncovering her body out at sea." Just how many women were taken to sea for that reason is not reported, but many ships had figureheads of women, both fully and partially clothed.

"Notes on Shipcarvings," a pamphlet published by The Mariners Museum in Newport News, Va., states that "deities of storm and sea required sacrifices to permit safe passage. Consequently, it was customary to display the offering on a pole to show the gods that a sacrifice had been made." (This is still done in some parts of the world where horns or fleece of animals are displayed on boats).

"Coins, vases and mosaics show that many ancient ships carried the oculus, or eye, painted or carved on the bow. This early form of ornamentation still can be seen on many Portuguese, Chinese, Italian and Indian vessels, perhaps intended to help assure safe passage through storm and dark of night. Other ships of the early seafarers carried carvings of swans, horses, bulls, geese, ibises, and bears, as well as lotus pods and gilded statues of gods indicating the ship's home port. Not everyone could understand a name spelled out in letters, but a graphic figure was an easy means of identification."

When the Viking Sweyn and his Norsemen attacked England in 1004, every ship in his fleet had the figurehead of a lion, bull, dolphin or warrior, while his own vessel had on its prow a figure of a dragon.

As the centuries passed, man's conquest of the sea's surface was reflected by a growing variety of figureheads.

In the 15th century, when prows of oceangoings ships became more pronounced, new possibilities for ornamentation arose. By the 16th century ship ornamentation—at the bow, stern, gun ports and various sections of the deck—was developed by leading artists.

Europeans were not the only ones fascinated with decorating their ships. Many primitive peoples carved figureheads. The late R. C. Leslie in his book "Old Sea Wings, Ways and Words" (1890), noted that "while the ships of the Chinese and Japanese remained almost figureheadless, a more warlike but almost isolated race of men in New Zealand decorated their canoes with a figure as highly developed as any of these upon our own 16th century ships."

Captain Cook described New Zealand war canoes that bore carved representatives of lions. Since the New Zealanders had certainly never seen a lion, they must have derived their ideas from "the derelict head of some early 16th century navigator's ship cast up on the shores of their islands," he said.

A mild setback to the figurehead art came in 1796 when the British Admiralty concluded that ship ornamentation served no useful purpose and ordered a reduction in figureheads. The Royal Navy College at Portsmouth, however, continued to conduct art classes for apprentice woodcarvers and some figureheads continued to be placed on naval ships.

Just before the Revolutionary War, animals, particularly seahorses, were popular. After 1765, human figures symbolizing the ship's name came into being such as Indian Princess, Commodore Morris, Jolly Tar, and David Crockett.

The Indian Princess figurehead, preserved at The Mariners Museum, is from a ship of the same name wrecked at Cape Cod. More is known of the figurehead of Commodore Morris, also at Mariners Museum, which graced the bow of the whaler Commodore Morris built at Falmouth, Mass. in 1841. Charles Morris was born in Connecticut in 1784 and served 54 years in the Navy. In 1823 he was appointed to the Board of Naval Commissioners, a post he held for 12 years. Prior to that he served aboard the USS Congress and the USS Constitution on which he was wounded in a battle with the Guerriere. Morris later commanded the USS Adams.

The Jolly Tar is a full length figure displayed at Mariners Museum. It is attributed to the privateer brigantine Jolly Tar built in Norfolk, Va., in 1781.

The Crockett figurehead is part of the San Francisco Maritime Museum's collection and is off the ship David Crockett launched on Oct. 18, 1853 at Adams Point, Mystic, Conn. Initially she was in the New York to Liverpool packet service and later put into the New York to San Francisco trade until 1883. The Crockett made 25 passages around Cape Horn and after serving a series of owners was converted into a coal barge in 1890. In 1905 she was stranded on Romer Shoal off New York where she ended her long career. Because of her New England origin a replica of the figurehead was

MISS FREEDOM: This comely lady was carved for the U.S. Naval Academy's schooner Freedom but was never mounted on the yacht because of her weight. It's on display at the Chesapeake Bay Maritime Museum.

RHINE: The lady is carved from English elm and is off the full-rigged ship Rhine built in Greenock, Scotland, in 1886. The Rhine carried coolies from Calcutta to British plantations in the Pacific and Caribbean before being transferred to American registry. She was broken up at Camden, N.J., in 1928.
Courtesy, The Mariners Museum

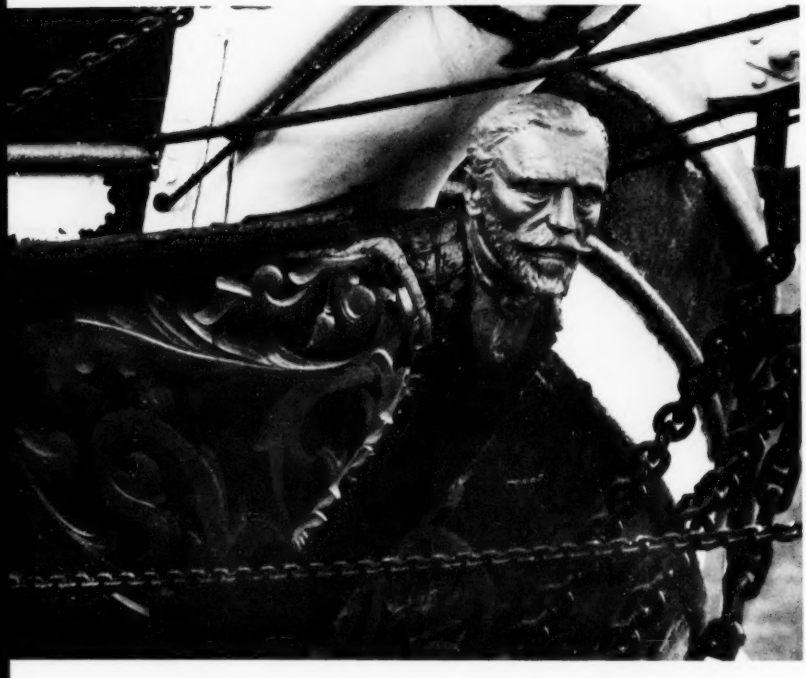
LADY WITH A ROSE: This small figure is attributed to two vessels, the Osage and Rose in Bloom, both of Connecticut. Her left arm is missing.
Courtesy, The Mariners Museum

LADY BLESSINGTON: Named for the Scottish barge of the same name, the Lady Blessington was built in the 1860s or 1870s. *Courtesy, Mystic Seaport*

carved in 1958 by Richard Orr of Mystic and is on display at Mystic Seaport museum.

The Revolutionary War period also saw figureheads representing heroes and gods of classical mythology. Minerva, Diana, Apollo and others found their places on ships of the young republic.

At the beginning of the 19th century merchantmen began to carry on their prows representations of their



JOSEPH CONRAD: This figurehead is a 20th century model carved by Bruce Rogers, American book designer and artist, and remains on the bow of the ship Joseph Conrad at Mystic Seaport. The vessel was built in Copenhagen in 1882 and purchased by Alan Villiers in 1934 who renamed her the Joseph Conrad. During World War II, she became a training ship for American youth who sought careers in the Merchant Marine.
Courtesy, Mystic Seaport

owners or owners' wives. The 19th century is considered the golden years of ship carving with some of the best specimens from that period still in existence. Every seaport in America and Europe had its figurehead artist, and in 1860 the U.S. census showed 2,269 woodcarvers although there was no indication of how many specialized in figureheads.

"Notes on Shipcarvings" says carvers were considered competent workmen "only after serving 12 to 14 years of apprenticeship." It is recorded that they could carve an ordinary 6-foot figure at the rate of a foot a day. Painting and finishing proceeded at the same rate, requiring 12 days for completion of such a figure.

"Elm and oak were generally used by English carvers. American carvers preferred softer, more easily worked pine, cedar or cypress which was plentiful. Thus many American vessels had to replace carvings due to rot or damage, while English heads often outlived one vessel and were placed on another."

By mid 18th century the U.S. merchant marine was second only to the United Kingdom in registered tonnage. The rush to the western gold fields was on and the forty-niners crowded aboard Panama-bound vessels. From Panama they jammed other ships that took them to the California gold fields. Whaleships and coastwise vessels were being built all along the East Coast from Maine to Baltimore.

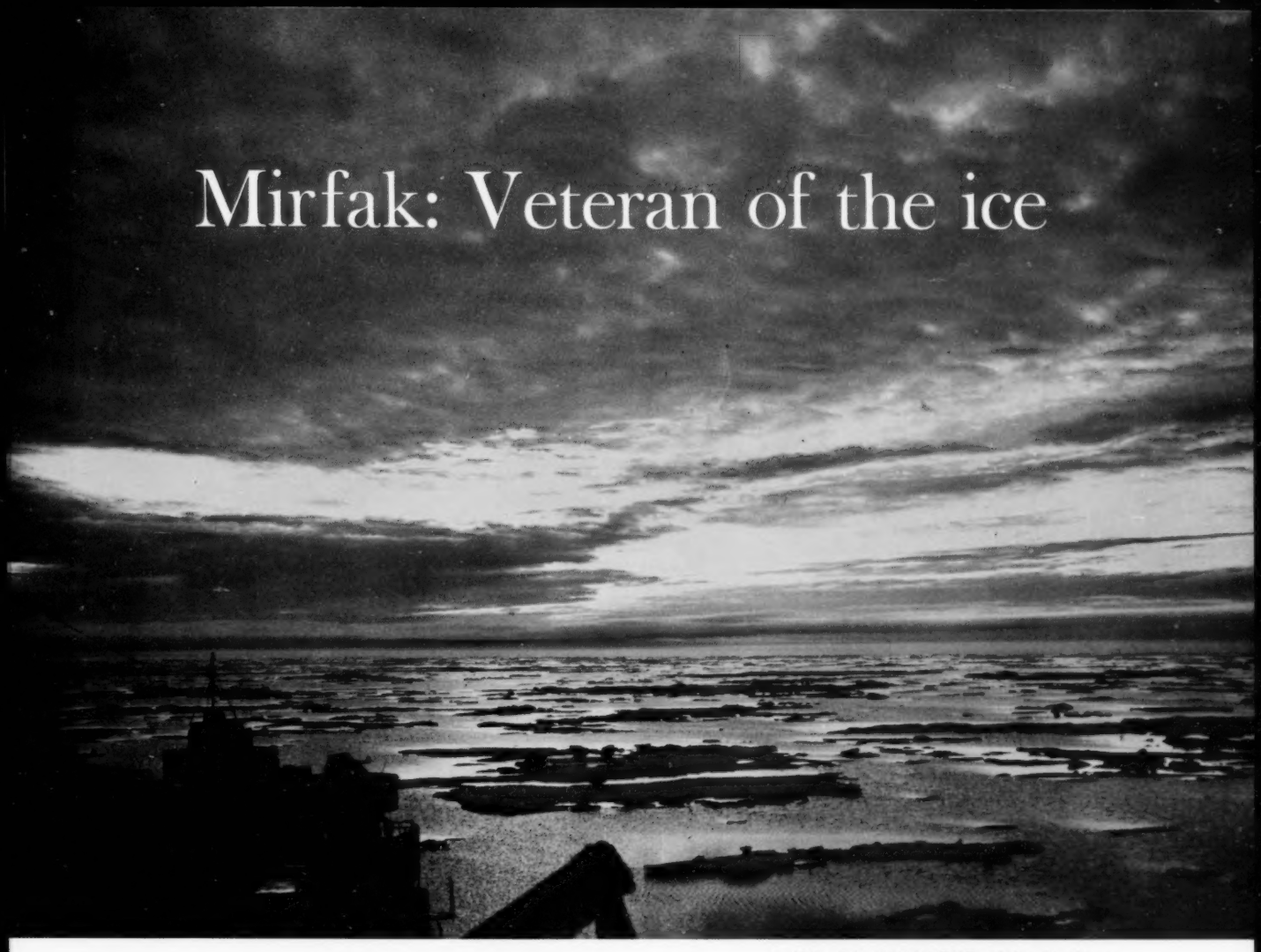
But economic problems arose. Shipbuilding declined with the 1857 depression and figurehead carvers turned to other work. Naval construction during the Civil War did not bring with it much ship ornamentation.

During the reconstruction period, wages increased, costs of raw materials rose and cargo was scarce. With the successes of the ironclads Merrimac and Monitor, it was obvious that wooden fighting ships were all but obsolete and the art of the shipcarver was on the wane.

At the turn of the century an unnamed naval officer lamenting the "good old days," wrote:

And there's many a story that could be told
Of the fine figureheads that were chiseled of old
On the dreary sands they crumble today
From Tierra del Fuego to Baffin Bay.
But the art is gone for the war ship of steel
Is a barren stretch the length of her keel. □

Mirfak: Veteran of the ice



LAND OF MIDNIGHT SUN: Darkness in the Arctic comes only when heavy clouds obscure the sun.

by
Linda E. McDaniel

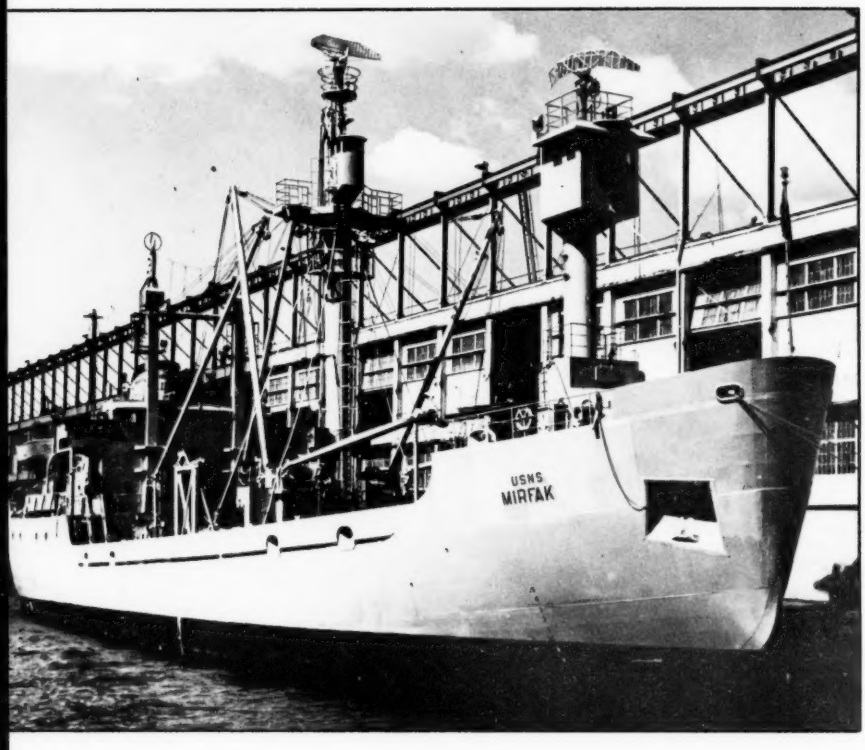
Going to need lots of ice for a colossal party? If so, give the USNS Mirfak a call. Dealing with ice is a specialty of the MSC ship.

The 266-foot, ice-strengthened, cargo ship has been primarily involved in Arctic and Antarctic operations since activation in 1957. Equipped to operate in polar regions, the ship is crewed by more than 30 Civil Service mariners trained and experienced in SCUBA diving and equipment repair and maintenance. Always welcomed by those who live and work in icy and remote polar regions, she is greeted warmly in the Arctic in early summer and fall. In these months the ship and her crew conduct opening-up and closing-down port operations, replenishing petroleum stocks, and delivering vital cargo. Mirfak now is enroute to the Arctic to deliver cargo and assist in other operations.

During these twice-a-year operations, the Mirfak crew gets a workout checking petroleum pipelines for leaks, then making repairs or replacing damaged pipe and hose sections. The crew also assures that important channel markers and navigational aids needed in these foggy regions are secure and visible. Mooring platforms, used to steady ships that hook-up for petroleum discharge, and buoys, also are painted and repaired by Mirfak's crew. All these tasks are unique for a cargo ship crew, but old hat to the men of the Mirfak.

Recently nominated by MSC, Atlantic, for a National Defense Transportation Assn. outstanding unit award, USNS Mirfak has performed a number of unheralded feats, somewhat extraordinary, even though all part of the job.

In Terrington Basin, Labrador, USNS Mirfak made repairs last year to the petroleum delivery system which serves Goose Bay Air Base, about five miles from the port. With the aid of three crewmen who are trained SCUBA



POLAR VETERAN: USNS Mirfak has been involved with Arctic and Antarctic operations since 1957.

MIRFAK LAND: Arctic ice surrounds three ships during ice breaking and supply operations. From left, are the Mirfak, USS Glacier and USCG Eastwind.

divers, the ship's crew lifted two steel submerged petroleum sections and two large tanker mooring buoys, all of which were repaired and reinstalled.

In Sondre Stromfjord on the west coast of Greenland at the Arctic Circle, the ship repaired and put into operation the submerged petroleum line servicing Sondrestrom Air Base. After completing this task, the ship's crew set up a shore radio beacon to provide navigational assistance into the fjord.

At a radar site on Greenland's east coast Mirfak's crew planted a tanker mooring buoy and ingeniously laid out the ship's petroleum hose as a floating pipeline to the beach for use by tankers serving this location. As floating ice is common in this area, landing craft manned by Mirfak crewmen were continuously occupied keeping ice away from the floating hose.

In November 1972, USNS Mirfak arrived at the Seabee base at Davisville, Rhode Island, to load cargo needed in Antarctica for use in research efforts by the National Science Foundation. Mirfak discharged part of her load at McMurdo Sound. With no icebreaker available, she then broke through closely packed ice to permit a thinner-hulled Victory ship to enter port. Loaded again, USNS Mirfak sailed through ice-congested seas to Palmer Station, Antarctica, without an icebreaker escort. There the crew discharged general cargo and petroleum using the ship's small landing craft, and POL hoses.

No matter what the mission—acting as a marine construction unit, a longshore gang, or icebreakers—the USNS Mirfak crew accomplishes it by going to extremes, geographical and professional. □

The Russians are here

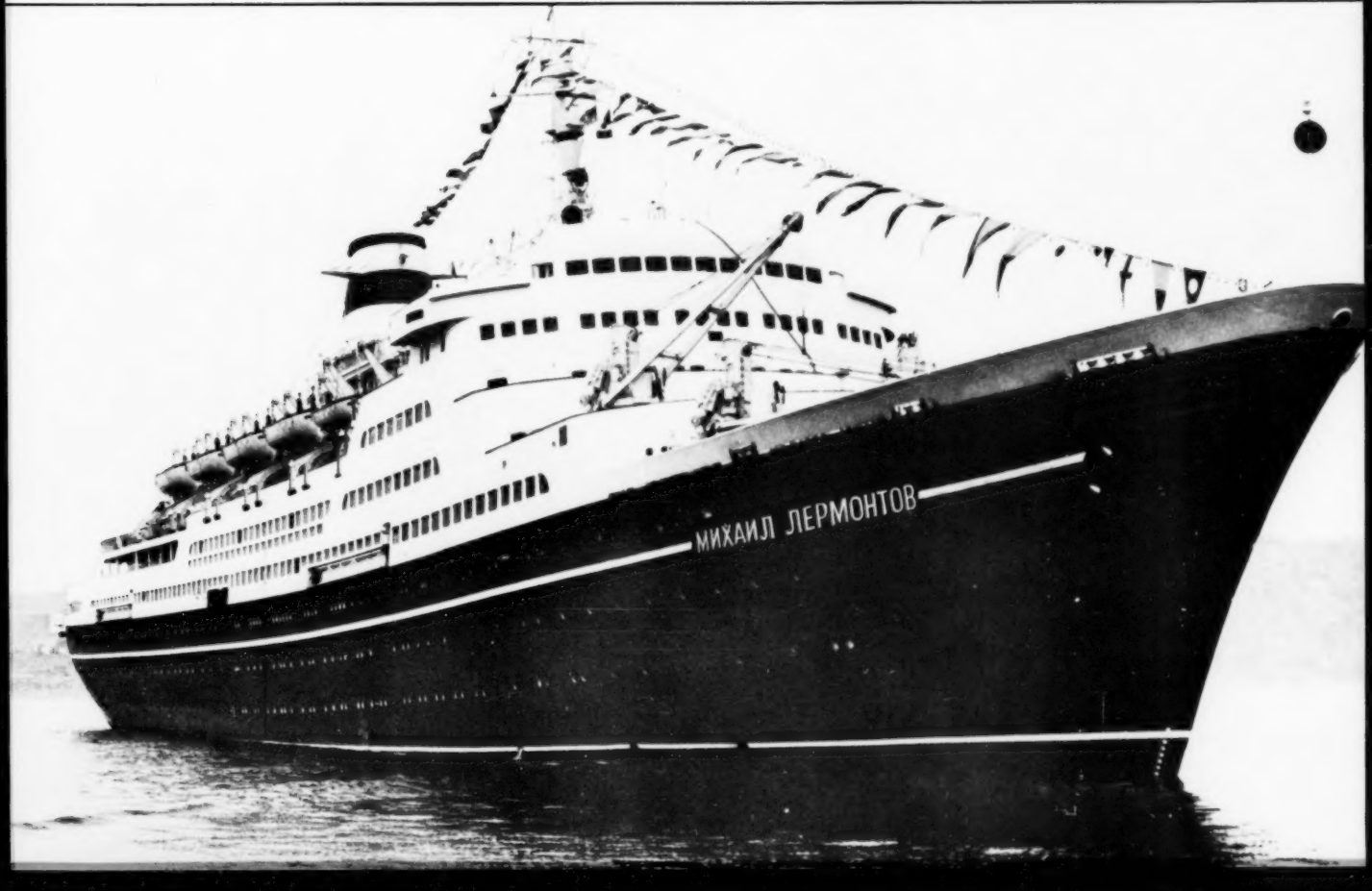
by
Louis Granger

"It's not inconceivable that one day we will see the hammer and sickle sailing into New York harbor to pick up passengers."

That prediction was made in 1966 by Thomas Martinez, Baltimore regional representative for the National Maritime Union (NMU).

In June 1973 it came true.

The Soviet passenger liner MS Mikhail Lermontov, a red hammer and sickle painted on her stack, sailed to New York on her maiden voyage. It marked the first time a Soviet passenger vessel put into an American port since



1948 when service between New York and Odessa was discontinued.

The arrival of the 700-passenger Lermontov also accented the decline and final demise of transatlantic passenger service by American flag ships. The SS United States was the last liner on the New York to Europe run and was taken out of service in November 1969. She is sitting empty at a pier at Norfolk.

Martinez's statement was part of a news story printed Dec. 19, 1966 in The (Baltimore) Evening Sun. He said the U.S. merchant fleet had continually decreased in number and tonnage since the Korean War, which was in dramatic contrast to Russia's ship-building program.

At that time the U.S. merchant fleet carried nearly 8 per cent of the country's waterborne imports and exports. This year the fleet carries only 5.6 per cent of foreign trade.

In the early 1960s, the Russian fleet carried approximately 42 per cent of its commerce. In 1966 it was about 60 per cent "and from all indications this will be increased," Martinez said then.

Although Moscow withholds considerable information regarding its merchant fleet, U.S. maritime experts say the percentage of Russian commerce carried by the fleet has continued to increase. Officials point out, however, that much of the goods are transported inter-coastal. U.S. inter-coastal shipping is considerably less because of a superior network of rail and trucking lines.

The Russian fleet numbered about 1,300 ships of 9 million deadweight tons (dwt) in 1966. The United States, on the other hand, was down to 954 active vessels in 1965 although the tonnage was considerably higher than Russia's at 14.7 million.

On June 1, 1973 there were 574 privately owned U.S. flag vessels operating with a deadweight tonnage of 12.5 million. These figures, however, should increase considerably over the next few years as results of the 1970 Merchant Marine Act are seen. As of May 1, 83 merchant ships totalling more than 4.1 million dwt were under construction or on order from American shipyards.

By 1970 the active Russian fleet numbered 1,670 ships at about 11 million deadweight tons. The USSR has announced plans to increase its merchant fleet to nearly 16 million dwt by the mid-1970s and 20 million dwt by 1980.

The Lermontov was built in East Germany in 1972. She will make the Leningrad-New York trip in about two weeks steaming at 20 knots making stops in Bremerhaven, West Germany; Tilbury, England; and LeHavre, France. The ship is expected to initially lose about $300,000 a voyage which Moscow is willing to absorb at first. Prestige and hopes of future profits should keep the Lermontov in business for some time.

"We know we cannot compete with the faster, more luxurious France or the QE2, but we can offer Russian flavor, cuisine and amusement at reasonable prices to the growing number of U.S. tourists coming to the Soviet Union," said Igor Averin, director of international relations for the Soviet Merchant Marine Ministry.

NMU President Shannon J. Wall visited the Lermontov while it was in New York and noted that from a distance it "could easily be taken for the 'Vistafjord' of the Norwegian-American Line which was at the opposite pier."

TRADITIONAL DANCERS: The one class, 700-passenger vessel features a Russian atmosphere as well as international and regional specialties. Dancers perform daily.

The Russian liner, he said, had a young crew that "seemed finely disciplined and well-trained. We weren't impressed with the ship's interior design or maintenance, however. The staterooms were small compared to U.S. standards. The wooden decks had oil and dirt stains deeply ingrained into them. They looked as if they hadn't been barberized or holystoned for months, if ever."

In his message to NMU members printed in the NMU Pilot in July, Wall said, "It's clear, the Russians have learned their lessons well, particularly the value of

'showing the flag.' They are using this ship and the others to the best of their ability to build up their image and sell their way of life around the world. There is no question they're going to lose money on the run of the Lermontov but they know what they're doing and they have decided it's worth the price to them."

"But one couldn't help wondering, being aboard that ship, what about the U.S.A.? Where are our great passenger vessels? The SS United States should be providing jobs for Americans; should be earning millions of dollars to help ease the U.S. balance of payments crisis; she should be building respect and friendship for our country around the world. Instead we let her waste away while the MS Mikhail Lermontov flying the hammer-and-sickle comes in to New York and foreign ports in her place," he said.

Martinez, commenting on his 1966 statements, said, "It's unfortunate that our country has allowed passenger ships to disappear. It's a terrible thing, but the American public doesn't seem to give a damn." □

Challenge On The Seas

Soviet Merchant Fleet Poses U.S. Threat In Lag, NMU Agent Contends

By Louis Grasgor

Russian luxury liners may one day sail into New York harbor to take American travelers to Europe if the Federal Government continues to ignore the United States Merchant Marine, according to Thomas Martinez.

Mr. Martinez, a tough-talking former seaman who now heads the Baltimore branch of the National Maritime Union of America, said that prediction is not at all inconceivable.

The size of the United States merchant fleet has continually decreased in number and tonnage since the Korean War.

This is a dramatic contrast to Russia's program to take over the foreign commerce of the world, Mr. Martinez, the union's port agent, said.

Number 1 Ships

The Russian fleet numbers about 1,700 ships of 9,000,000 tons of predominately modern vessels. The United States, on the other hand, was down to 904 vessels in 1966, although the tonnage was listed as 14,700,000.

But approximately 70 per cent of the fleet is twenty years old or older and only 4% of this country's ships are engaged in foreign commerce.

Russia, Mr. Martinez said, has more than 500 ships under construction or on order, while the United States will only build twelve in 1967.

Last year this country constructed one tanker and that was built in Baltimore. Russia, however, built 76 tankers, and unless we do something the Reds will control the flow of oil and liquid products all over the world," he contended.

Put At 50 Per Cent

In the early 1960's, the Russian fleet carried approximately 15 per cent of its commerce. Now estimates put it at about 50 per cent "and from all indications this will be increased," he continued.

Currently, the United States merchant fleet is carrying less than 5 per cent of the country's waterborne imports and exports, he said.

He expressed confidence, however, that the United States merchant marine, by choice would regain its once dominant position in world trade.

"But not because the defense or commerce departments will put start to do something but because we will prod the heck out of them," he declared.

"If we write to the President or McNamara (Secretary of Defense McNamara) then it is the get nowhere. But the people are beginning to awaken to the plight of the maritime industry and that's where we will wage our fight."

The National Maritime Union, AFL-CIO, has already established a speakers bureau which has taken the message to service clubs and community organizations.

Thousands of reprints from Saturn Life a magazine published by the Russian Embassy in Washington, describing that country's Merchant Marine have been distributed to various organizations and to congressmen.

In the articles, Victor Bakayev, Russian Minister of the Merchant Marine, said the mission toured by Edwin M. Hood, president of the Shipbuilding Council of America, was correct that as a result of the extensive vessel shipbuilding program Russia may exert an unusual sustaining and very significant effect on shipping and traditional patterns of transportation.

"Blinded By Space Race"

The large majority of Americans citizens "have become blinded by the race to outer space and have forgotten what has happened to our merchant marine industry," Mr. Martinez said.

We are the only country to follow the policy of ignoring the Merchant Marine," he added.

Why is Russia building so many ships?

"To compete with us . . . to drive us off the seas," he said.

What can the country do to rebuild the merchant service?

Clear Merchant Marine Act

"For one thing our government could abide by the Merchant Marine Act of 1936, which states that the nation should maintain an adequate merchant marine for commerce and as a fourth arm of defense," he said.

Right now we don't have enough ships to carry all the men and supplies to Viet Nam.

Building a strong merchant marine, he contended, "must be done through legislation. That's the reason we're so interested in politics. We must encourage the Congress to enact laws to protect what we have and to build a strong merchant fleet."

Passenger Ships As Well

Passenger ships as well as cargo carriers must also be constructed today, he asserted.

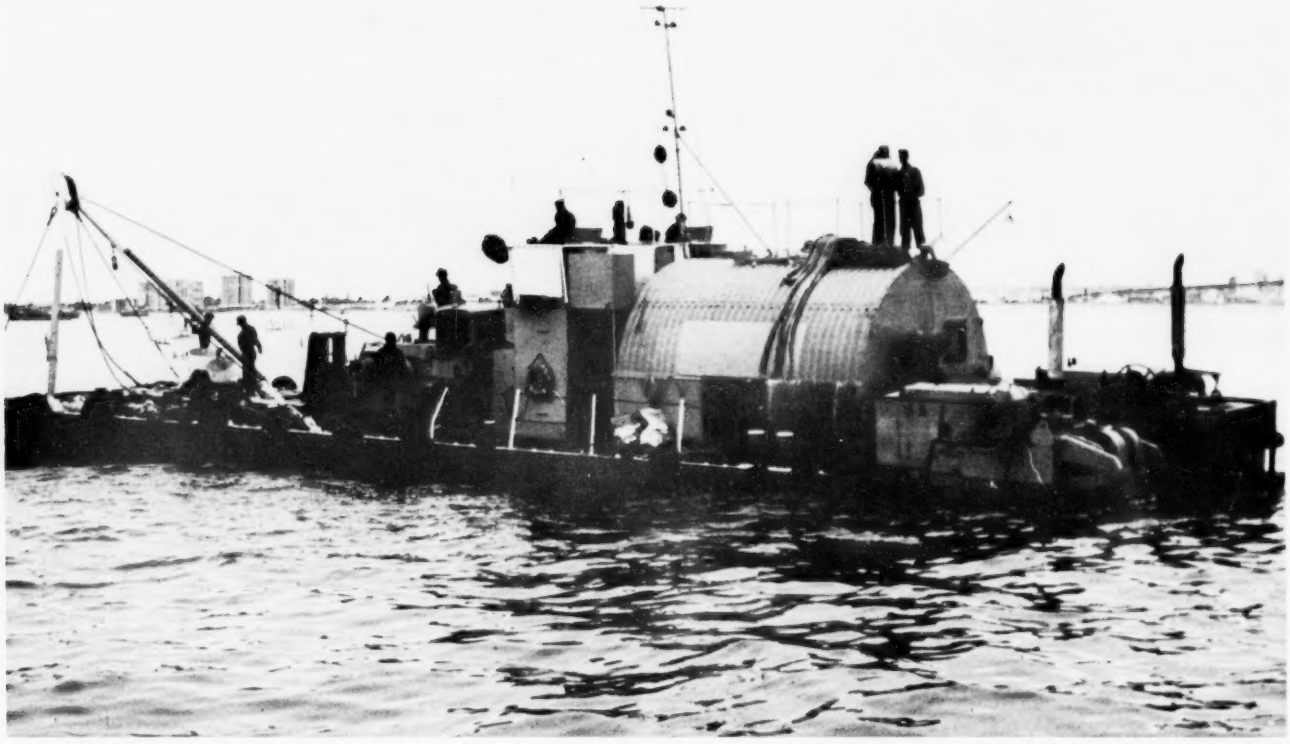
Unless the United States boasts more and supports the existing ones, "it's not inconceivable that one day we will see the Hammer and Sickle flying into New York harbor to pick up passengers," Mr. Martinez predicted.

They already have a regular passenger run from Leningrad to Montreal, he pointed out.

Comments as they appeared in The (Baltimore) Evening Sun.

Five proposals, each of which would put the SS United States back into service, are being considered by the Maritime Administration. The sponsors and their proposals include: William S. Edge, San Jose, Calif., exposition ship; Weller and Associates, Honolulu, Mediterranean cruises; United States World Trade Exhibits, Inc., Pottsville, Pa., trade mission; Prince of Peace Foundation, Richmond, Va., worldwide religious mission; and W.W. Ventures, Inc., Spotsylvania, Va., floating condominium.

Five additional proposals have been returned because they required federal subsidies which the government is not willing to pay. The Maritime Administration said it will reconsider them if the companies drop the subsidy request. They are: Sea Containers, Inc., London, transatlantic cruises; Harry J. Katz, Philadelphia, Pa., passenger service between U.S. East Coast and Europe; Pacific Institute of Technology, Pasadena, Calif., world cruises for retirement community and seagoing college; and North American Line, Inc., Coral Springs, Fla., East Coast cruises.



TOP TUG: This warping tug proved most successful in moving LASH barges during the Coronado barge tests. Water jets at right give the vessel 360 degrees maneuverability. *(See story on page 7.)*

DEPARTMENT OF THE NAVY
MILITARY SEALIFT COMMAND
WASHINGTON, D.C. 20390

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

POSTAGE AND FEES PAID
DEPARTMENT OF THE NAVY
DOD-316

U.S.MAIL

☆ U.S. GOVERNMENT PRINTING OFFICE: 1973—542-332/3